



CAIT

Center for Advanced Infrastructure & Transportation
Rutgers, The State University of New Jersey

QUARTERLY PROGRESS REPORT

Project Title:	Seismic Analysis of Retaining Walls, Buried Structures, Embankments, and Integral Abutments		
RFP NUMBER: 2000-25	NJDOT RESEARCH PROJECT MANAGER: Mr. Anthony Chmiel		
TASK ORDER NUMBER/Study Number: Task Order No. 127 / 4-26995	PRINCIPAL INVESTIGATOR: Dr. Husam Najm		
Study Start Date: 01/01/2003 Study End Date: 12/31/2003	Period Covered: 3 rd Quarter 2003		

Task	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
Literature Review on Seismic Design of Abutments, Retaining Structures, Buried Structures, and Embankments	10	20	50	5
Provide Analysis, Design, and Detailing of Free Standing Abut and Retaining Walls	20	25	22	6
Provide Analysis, Design, and Detailing of Integral (Diaphragm) Abutments	20	25	22	6
Provide Guide Specifications Manual to Assist Designers in Designing Free-Standing and Integral Abutments, Embankments, Buried Structures and Retaining Walls	30	30	0	0
Prepare Progress reports	10	20	4	4
Prepare Technical Memorandum and Final Report	10	25	0	3
TOTAL	100%	25	44	44

1. Progress this quarter by task:
Continue to run analysis on bridges for several cases comparing proposed and current LRFD criteria. This includes bridges in North, Central, and South Jersey with various accelerations. We also looked at using accelerations with less return period and compare them with the 2500 years return period. The impact of soil was also evaluated by comparing EQ in various soil profiles (B, D, and E) plus the impact on detailing requirements on typical bridges in those zones and how the design compares with that of the existing specs. A look also response of retaining walls to earthquake was evaluated. Buried structures were also evaluated based on existing information and data are compiled and will be presented.
2. Proposed activities for next quarter by task:
Prepare design criteria and guidelines. Prepare a detailed design example for abutments and retaining walls. Evaluate the new proposed revisions to NCHRP 12-49 that recently presented at the AAASHTO meeting in Albuquerque, NM. Update draft of final report based on comments form NJDOT customer and research manager.
3. List of deliverables provided in this quarter by task (product date):
An interim draft report of completed work from start of work up to end of this quarter.
4. Progress on Implementation and Training Activities: None

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5. Problems/Proposed Solutions:
None

6. Budget Summary*

Total Project Budget (# of years)	1 Year	\$173,017
Total Project Expenditure to date		\$69,077
% of Total Project Budget Expended		40%
Task Order Number/Study Number:		127 / 4-26995
Current Task Order Budget (# of years)	Year 1	\$173,017
Actual Expenditure to date against current task order		\$69,077
% of current task order budget expended		40%

* These are approximate expended amounts for the project; these estimates are for reference only and should not be used for official accounting purposes. For a more accurate project accounting please review the quarterly invoice for this project.

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